

WHAT IS CLAIMED IS:

1. A security gateway for interfacing between virtual private network data packets and corporate network packets, each data packet comprising address information, the security gateway comprising:
 - a plurality of protocol modules each for processing packets in accordance with a different virtual private network protocol;
 - memory for storing sequence information identifying which of the protocol modules is to process each packet and the order of the processing;
 - a protocol discriminator for receiving data packets and being responsive to the address information of a received data packet for passing the received data packet to one or more of the protocol modules, for processing thereby in the sequence identified by the protocol sequence information.
2. A security gateway in accordance with claim 1 wherein each protocol module receiving a data packet passes the received packet back to the protocol discriminator upon completion of processing.
3. A security gateway in accordance with claim 2 wherein the protocol discriminator selectively sends a data packet received from one of the protocol modules to another of the protocol modules.
4. A security gateway in accordance with claim 3 comprising a firewall interface to a corporate network and the protocol discriminator passes data packets to the firewall interface after processing by one or more of the protocol modules.
5. A security gateway in accordance with claim 1 wherein one of the plurality of protocol modules processes virtual private network packets at a level 2

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communication layer and another of the plurality of protocol modules processes virtual private network packets at a level 3 communication layer.

5 6. A security gateway in accordance with claim 5 wherein the one protocol module processes point-to-point tunneling protocol and layer 2 tunneling protocol.

7. A security gateway in accordance with claim 5 wherein the another protocol module processes packets in the IPSec protocol.

10 8. A security gateway in accordance with claim 1 comprising a packet filter responsive to address information in packets presented thereto for selectively granting and denying communication with the corporate network.

15 9. A security gateway in accordance with claim 8 comprising a stored table of access rules and the packet filter responds to the access rules for selectively granting and denying communication with the private network.

20 10. In a security gateway for interfacing between virtual private network packets and corporate network packets, each packet comprising address information and a plurality of protocol modules each for processing packets in accordance with a different virtual private network protocol, the method comprising:

25 storing protocol sequence information identifying which of the protocol modules is to process each packet and the order of the processing;

30 receiving data packets and responsive to addressing information of a received data packet, sending the received data packet to one or more of the protocol modules, for processing thereby in the sequence identified by the protocol sequence information.

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11. A method in accordance with claim 10 comprising accumulating the protocol sequence information during authentication of one or more communication request packets.

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12. A method in accordance with claim 10 comprising processing virtual private network packets at a level 2 communication layer in one of the plurality of protocol modules and processing virtual private network packets at a level 3 communication layer in another of the plurality of protocol modules.

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13. A method in accordance with claim 10 comprising selectively granting and denying communication with the corporate network.

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14. A method in accordance with claim 13 comprising storing a table of access rules upon which granting and denying communication with the private network is based.

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15. A method of operating a security gateway in a virtual private network in which a user is assigned an IP address on a per session basis, the method comprising:

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receiving at the security gateway a network packet and ascertaining from the packet the assigned IP address and the identity of the user initiating the packet;

identifying from storage at the security gateway rules and policies specifying permissions for the identified user to communicate and VPN protocols for packets from the identified user;

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binding a portion of the rules and policies for the identified user to the assigned IP address of the user;

processing received packets in a plurality of protocol modules in accordance with the identified VPN protocols; and

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controlling virtual packet network security

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functions for packets from the user under direction of data in the rules and policies bound to the assigned IP address of the user.

5 16. A method in accordance with claim 15 wherein the rules and policies comprise data defining the security associations for communication between the user and the security gateway.

10 17. A method in accordance with claim 15 wherein the rules and policies comprise data for controlling access by the user to processes and data on a private network.

18. A method in accordance with claim 15 wherein the identifying step comprises negotiating VPN protocol attributes between the user and the security gateway.

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